IN THE CLAIMS:

1. (canceled) A method of locating an object lying behind an opaque surface rendering the object non-visible which comprises providing in the neighbourhood of the object a variable strength magnetic field, sensing the magnetic field strength at a plurality of positions relative to the object using an array of Hall effect magnetic sensors, the array of Hall effect sensors being associated geometrically with a machining guide, such that the machining guide and the array of sensors are fixed positionally one relative to the other, interrogating the sensors to determine the value of the field strength at at least the majority of the sensors, analysing the sensor responses to determine the displacement between the object and the machining guide, and moving the array and machining guide to a position in which the displacement is a minimum.

2. (canceled) A method according to Claim 1 wherein once the machining guide is located adjacent the surface at that point of the surface immediately and centrally overlying the object in question, the position of the array and machining guide is fixed.

3. (canceled) A method according to Claim 1 wherein the fixation is effected by locking the array on to the surface via vacuum pads.

4. (canceled) A method according to any one of Claims 1 to 3 wherein the object is a hole relative to which a magnet or body of ferromagnetic material is located.

5. (canceled) Apparatus for locating non-visible objects positioned behind an opaque surface, which apparatus comprises means to generate a variable strength magnetic field, a base member adapted to be placed on or against the surface, means in

the base member defining a machining guide, an array of Hall effect sensors located relative to the machining guide, and means for collecting and analysing outputs from at least some of the sensors to provide an indication of the variation of the magnetic field associated with the object relative to the position of the base member.

6. (canceled) Apparatus according to Claim 5 wherein the base member is adapted to be moved across the surface to enable the machining guide to be aligned with the object.

7. (canceled) Apparatus according to Claim 5 or 6 and including fixing means adapted to lock the position of the base member and the object relative to one another.

8. (canceled) Apparatus according to any one of Claims 4 to 6 and wherein the means for analysing includes a visual display means adapted to indicate the location of the object relative to the array of sensors, and accordingly to indicate when the array is positioned with the machining guide associated therewith located closest to the non-visible object.

9. (canceled) Apparatus according to any one of Claims 5 to 8 wherein the array of Hall effect sensors is a cruciform array.

10. (canceled) Apparatus according to any one of Claims 5 to 9 wherein the signal display is a computer-driven flat display screen adapted to represent in appropriate symbolic fashion the location of the object and the location of the machining guide.

11. (new) A method of locating an object lying behind an opaque surface rendering the object non-visible which comprises providing in the neighborhood of the object a variable strength magnetic field, sensing the magnetic field strength at a plurality of positions relative to the object using an array of Hall effect magnetic sensors, the array of Hall effect sensors being associated geometrically with a machining guide, such that the machining guide and the array of sensors are fixed positionally one relative to the other, interrogating the sensors to determine the value of the field strength at at least the majority of the sensors, analyzing the sensor responses to determine the displacement between the object and the machining guide, and moving the array and machining guide to a position in which the displacement is a minimum.

12. (new) The method of claim 11, wherein the object is a hole relative to which a magnet or body of ferromagnetic material is located.

13. (new) The method of claim 11, wherein once the machining guide is located adjacent the surface at that point of the surface immediately and centrally overlying the object in question, the position of the array and machining guide is fixed.

14. (new) The method of claim 13, wherein the object is a hole relative to which a magnet or body of ferromagnetic material is located.

15. (new) The method of claim 11, wherein the fixation is effected by locking the array on to the surface via vacuum pads.

16. (new) The method of claim 15, wherein the object is a hole relative to which a magnet or body of ferromagnetic material is located.

17. (new) An apparatus for locating non-visible objects positioned behind an opaque surface, which apparatus comprises means to generate a variable strength magnetic field, a base member adapted to be placed on or against the surface, means in the base member defining a machining guide, an array of Hall effect sensors located relative to the machining guide, and means for collecting and analyzing outputs from at least some of the sensors to provide an indication of the variation of the magnetic field associated with the object relative to the position of the base member.

18. (new) The apparatus of claim 17, further including fixing means adapted to lock the position of the base member and the object relative to one another.

19. (new) The apparatus of claim 17, wherein the base member is adapted to be moved across the surface to enable the machining guide to be aligned with the object.

20. (new) The apparatus of claim 19, further including fixing means adapted to lock the position of the base member and the object relative to one another.

21. (new) The apparatus of claim 19, wherein the array of Hall effect sensors is a cruciform array.

22. (new) The apparatus of claim 19, wherein the means for analyzing includes a visual display means adapted to indicate the location of the object relative to the array of

sensors, and accordingly to indicate when the array is positioned with the machining guide associated therewith located closest to the non-visible object.

23. (new) The apparatus of claim 22, wherein the visual display is a computer-driven flat display screen adapted to represent in appropriate symbolic fashion the location of the object and the location of the machining guide.

24. (new) The apparatus of claim 17, wherein the means for analyzing includes a visual display means adapted to indicate the location of the object relative to the array of sensors, and accordingly to indicate when the array is positioned with the machining guide associated therewith located closest to the non-visible object.

25. (new) The apparatus of claim 24, wherein the visual display is a computer-driven flat display screen adapted to represent in appropriate symbolic fashion the location of the object and the location of the machining guide.

26. (new) The apparatus of claim 17, wherein the array of Hall effect sensors is a cruciform array.